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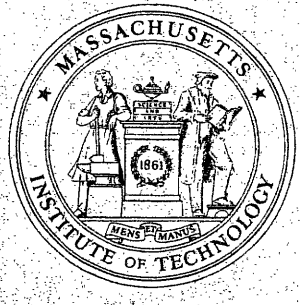

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Using EVAL for Data Analysis
A Primer

by

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Table of Contents

This text presents some of the EVAL commands that are necessary for a user to analyze information stored in EVAL. This text assumes you have a basic knowledge of using EVAL on Multics.

Additional information regarding the use of EVAL can be found in the EVAL SYSTEM USER'S GUIDE.

Acknowledgment

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1. Introduction

The MIT/NILECJ EVAL system is a special-purposed computer program designed for the research project "An Empirical Study of Methods Used in Criminal Justice Evaluations". A sample of about 200 evaluation reports published by various organizations is read and a questionnaire for each evaluation report is filled out by a member of the research group. The purpose of this computer program is to maintain on-line all the project's records and each of the 200 evaluation reports. In addition, it allows a user to search all these reports and questionnaires according to such variables area of work, focus of evaluation, data sources, and methodologies, and generates analysis report based on the information. This system is currently implemented on the Multics Operating System at MIT.

EVAL stores each evaluation report in a separate file. Each file consists of a fixed set of information about the evaluation report, for example, the author of the report, date of publication, organization that publishes the report, etc., followed by a questionnaire for this report. A 6-digit number number is assigned to each report and its questionnaire. The first two digits of this 6-digit number (called the report ID) denote the subject code of a report; the second two digits are the entry number in a subject code as specified in the first two digits of the report ID. The last two digits are the agency code, the agency or organization that publishes this report. Table 1 lists all the subjects represented in the subject code. Table 2 depicts the organizations or agencies represented in the agency code.

In addition to the subject code and the agency code, EVAL also uses five additional codes. See Table 3, 4, 5, and 6 for the meaning of these codes. By specifying a combination of these codes, EVAL allows the user to search reports of particular interests. For example, question like "I want to have a list of all reports funded by the Law Enforcement Assistance Adminstration about Patrol Strategies" can be handled easily by EVAL. See the description for "search" command in the command description section (Page 20) for detail.

2. Gaining Access to Multics

EVAL operates under Multics Operating System. In order to use EVAL, a terminal must be connected to the Multics computer. This section presents the basics of how to conduct a terminal session under Multics: how to login and logout Multics, the characteristics of the DEC Writer II terminal, how to invoke and use EVAL. The sequence of activities typically associated with a EVAL session are as follows:

* Making the physical connection between your terminal and Multics.
* Logging-in Multics
* Invoking EVAL
* Conducting your terminal session once EVAL is invoked.
* Logging-out Multics when your terminal session is completed.

Using the Dec Writer II computer terminal

Before connecting the terminal with the computer, set all switches in front of the keyboard in the "up" position. Then press the [300] and [HDX] switches down. Make sure the [CAPS LOCK] key is up since Multics only recognizes lowercase letters.

Entering a line

When communicating with Multics and EVAL, the terminal keyboard is used to type a line of input, for example, a EVAL command or a line of user input. The signal to Multics

that designates the "end of input line" is the keyboard carriage [RETURN] key.

Sometimes you can save a little time by entering two or more commands (or input) in succession without waiting for system responses. There is a drawback to this. If you make a mistake in one of the commands, Multics or EVAL sends you messages telling you of your mistake, and then it cancels the remaining commands you have entered. After you correct the error, you have to reenter the other commands.

Correcting typing errors

There are two special symbols for correcting typing errors, the character delete and the line delete. These symbols may vary, but generally the number sign (#) is the character-delete symbol, and the commercial at sign (@) is the line-delete symbol.

The character-delete symbol "erases" one previously typed character, space, or tab when typed directly after the error. The line-delete symbol "erases" every character previously typed on the line, including spaces and tabs. Examples of both symbols are given in the login command lines below. Each line is interpreted by Multics as -- login TKWong.

```
losin TKWO#ons
losen T####in TKWons
losen TKWo@losin TKWons
los@lose@lose#in TKWons
```

The procedure to establish a physical connection between your terminal and Multics is described next.

* Turn the terminal power on.
* Make sure all switches in front of the keyboard are set correctly.
* Press the "TALK" button on the modem, dial x8-8313 (outside MIT, dial 617-258-8313). When you hear a high pitched tone, press the "DATA" button and place the receiver in the cradle of the modem. Press the keyboard carriage [RETURN] key a few times to initiate the LOGIN process.

Logging in Multics

After establishing a physical communication link, the Multics "login" command can then be used to start the terminal session.

Multics acknowledges that a communication link has been established by typing the following messages:

```
Multics 33.17a: MIT, Cambridge, Mass.
Load = 29.0 out of 85.0 units: users = 29
```

Now type the login entry as follows:

```
login TKWong
Password:
rosedale
```

The password you typed will be masked to avoid it being exposed to others in order to maintain security for your work. If the login is successful, Multics will print greeting message which identifies the time and date of the current session, number of users using Multics, and date and time of your last terminal session. Once the message is completed, Multics is ready to accept your next command.

```
You are protected from preemption.
TKWong SumLab logged in 11/27/78  0031.1 est Mon from ASCII terminal "none".
Last login 11/27/78  0030.4 est Mon from ASCII terminal "none".
```

Invoking EVAL

If you just log in Multics, you will be asked the following question:

```
Do you want to enter the MIT/NILCEJ EVAL System? -->
```

A "yes" reply will invoke EVAL automatically. A "no" reply will keep you in the Multics command level, where Multics commands are accepted and executed. If you want to invoke EVAL in the Multics command level, you have to type:

```
eval
```

EVAL will print greeting messages to notify that EVAL has successfully been invoked.

```
Welcome to the MIT/NILECJ EVAL System.
Type "help" for information.
```

At this time, you can begin your EVAL session, entering EVAL commands and input data.

Logging out Multics

To end a terminal session, you would issue the "logout" command. This command will be accepted both by the EVAL and Multics System. The command and system responses are as follows:

```
Enter a request.
--> logout
Good Bye. Have a nice day.


TKWong SumLab logged out 11/27/78  0130.1 est Mon
CPU usage 40 sec, memory usage 847.8 units.
hangup
```

Do not turn off the terminal power immediately after you typed "logout". It is important to wait for the "logout" messages before you turn of the terminal power. Turning power off before EVAL responds will leave some useless files in EVAL, and lead to a higher storage cost charged to your account.

3. EVAL Messages

There are five types of messages in EVAL:

+ Broadcast messages.
+ Memo
+ System messages.
+ Prompting Messages
+ Information messages.

Broadcast messages.

Broadcast messages are messages of general interest to EVAL users. Broadcast messages are sent by the system programmer or by the project administrator. For example, the system programmer can send the following messages to EVAL users:

```
***************
* SYSTEM NEWS *
***************

Because of a bug in the EVAL system,
comment of problem 19(b) was written on problem 20(b),
and problem (31) was written on problem (30).
This bug was fixed at 10/14/78.
Please correct all questionnaires entered before that date.
```

Memo

EVAL allows users to send memo to other EVAL users. For example, you may send the following messages to other EVAL users:

```
Memo:  from tom 11/27/78  0128.1 est Mon

To dawn: please call me on Monday 11/27
```

EVAL records the name of the user, date, time, and report ID when a report is added, modified, or deleted by the user. When you invoke EVAL, these messages will be printed on your terminal:

```
System Messages:
Report no: 00-00-00 was added by tom 11/29/78 06:30.1
```

EVAL stores these system messages generated within the past 7 days. You can type "m" or "message" to retrieve these messages if you desire.

Prompting messages

A prompting message tells you that required information is missing or that information you supplied was incorrectly specified. A prompting message asks you to supply or correct that information. Prompting messages can be recognized by the "--> " after the message. For example, the "print" command requires a report ID or IDs as operand, if you enter the "print" command without that operand, EVAL will prompt you for a report ID and your listing will look as follows:

```
Enter a request.
--> print
Enter 6-digit report ID. -->
Incorrect input.
Please try again or type "help" for information.
PRINT: Enter the 6-digit report ID. -->
```

You can stop a prompting messages sequence by entering the required information or by typing a "c" or "cancel" as input to abort the command. If you cancel the command, EVAL responds with the following messages:

```
Enter a request.
--> p
Enter 6-digit report ID. --> c
SYSTEM: Cancel command accepted.
SYSTEM: Print command processed.
```

Information messages

An information message tells you about the status of EVAL or the result of the EVAL command you issued previously. For example, an information message can tell you that your previous command has been completed successfully. Unlike prompting messages, information messages do not require a response or action from you.

```
SYSTEM: Cancel command accepted.
SYSTEM: Print command processed.
```

Six EVAL commands are described below. These commands are all you need to know to analyze the information stored in EVAL. Detail descriptions of all EVAL commands can be found in the EVAL SYSTEM USER'S GUIDE.

List (l) command

The list command lists all reports that are stored in the EVAL system. For example, if you want to know how many reports that have report ID from 00-00-00 to 05-00-00, you type:

```
Enter a request.
--> list 000000 to 050000
```

EVAL responds by printing all reports with report ID in between 00-00-00 and 05-00-00, together with their representation codes:

Report ID	SUBJ	ENT NO	AGENCY	NEP	EXEMP	FOCUS	DATA	METH1
03-12-99	03	12	99	0	0	9	3	0
04-12-99	04	12	99	0	0	6	4	4

List command processed.

If no such report exists, EVAL responds by printing the message "LIST: Report(s) not found.".

```
Enter a request.
--> l 035599
LIST: Report(s) not found.
List command processed.
```

If you do not specify any report ID, the default is to list all reports in the system.

A special option is available to reduce the amount of printing on your terminal when you use the "list" command. Typing a "*" after the "list" command instructs EVAL to print only the report IDs, without the representation codes associated with the report ID.

```
Enter a request.
--> list 000000 to 050000 *
Report ID
03-12-99
04-12-99
SYSTEM: List Command Processed.
```

If you type "list *" without specifying any report ID, EVAL tells you only the number of reports in the system. To use the star option to list all reports in the system, you type:

```
Enter a request.
--> list * 000000 to 999999
```

Print (p) command

The "print" command prints a report or reports on your terminal. If you want to have the report with report ID 02-13-99 printed on your terminal, you type:

```
Enter a request.
--> print 02-13-99
```

You can also print a list of reports on your terminal, thus, the following requests are legitimate:

```
Enter a request.
--> print 000000 to 050000

Enter a request.
--> print 12-17-52,122152,080170

Enter a request.
--> print 121752,200000 to 098700,081700
```

If you fail to provide a report ID or report IDs, EVAL sends you a prompting message asking you to supply it. You can either supply a report ID or IDs, or abort the "print" command by typing a "c" or "cancel". If the "print" command is cancelled, EVAL responds by printing the message "SYSTEM: Cancel command accepted.", and waits for your next command.

```
Enter a request.
--> print
Enter 6-digit report ID. --> c
SYSTEM: Cancel  command accepted.
SYSTEM: Print command processed.
```

If the report ID you provided does not match with the report IDs in the EVAL system, EVAL responds with the message "PRINT: Report(s) not found.", and waits for your next EVAL command.

```
Enter a request.
--> print 000000
PRINT: Report(s) not found.
SYSTEM: Print command processed.
```

A special "star" option is also available to users who only want part of the reports printed. For example, if you want to print question number 17, 23,24,28,29,30 of the questionnaire associated with the report ID 02-13-99, you type:

```
Enter a request.
--> print 021399 *
SYSTEM: Special options in effect.
Enter question number(s). --> 17,23,24,28 to 30
```

The "*" in the above example invokes the special option of the "print" command, and EVAL responds "SYSTEM: Special options in effect." EVAL then requests you to supply

question numbers. Note, a question number must be in between 8 and 31. The "*" can be typed anywhere in the command line after the keyword "print". The following example also invokes the special option of the "print" command:

```
Enter a request.
--> print * 021399
SYSTEM: Special options in effect.
Enter question number(s). -->
```

The speed of your terminal is very slow, about 30 characters per second. It is therefore unwise to have a large number of reports printed on your terminal, since this may take hours to be completed. EVAL allows users to send a large volume of output to MIT IPC (Information Processing Center) where a high speed line-printer is available. See the "dprint" command for detail.

Write (w) command

The "write" command is essentially the same as the "print" command except that the output from the execution of the "write" command is stored in a file (to be named). This allows you to retrieve information stored in a file anytime you want. For example, if you want to group all reports with report ID from 50-00-00 to 60-00-00 in a file, you type:

```
Enter a request.
--> write 500000 to 600000
```

If you do not provide a file name, EVAL sends you a prompting message asking for it. A file name is a string of alphabets from a to z (upper case or lower case) and numbers. A file name must not have more than 16 characters. Since there will be many such files stored in EVAL, the name should be chosen so that it is meaningful to you.

In addition to the file name, you also have to specify the file attribute. The file attribute of a file takes either one of the following values, "new" or "old". If the file attribute of a file is "old", the output from the execution of the "write" command will be appended to the file. If the file attribute is "new", the output will direct to a new file. If it happens that a file with the same name already exists, the old content of the file will be replaced by the output evoked by this "write" command.

```
Enter a request.
-->  w 031299
WRITE: Enter the name of the output file. -->  tom_09
WRITE: Enter the attribute of the output file. -->  old
Report Number                                  31299    was written at 11/27/78
WRITE: tom_09.output appended. at 11/27/78  0049.0 est Mon
SYSTEM: Write command processed.
```

```
Enter a request.
-->  w 5000000 to @w 000000 to 100000
WRITE: Enter the name of the output file. -->  tom_09
WRITE: Enter the attribute of the output file. -->  new
WRITE: tom_09.output already exists.
WRITE: Do you wish to delete the old copy? -->
```

In the above example, the user is asked whether he wants to delete the old copy of the output. A "yes" reply will delete the old copy, and create a new file that

contains the output from the execution of this "write" command. A "no" reply will abort the "write" command, and EVAL is ready to accept another request.

You can supply all required operands of the "write" command at one time, any missing operand will be requested by EVAL. However, if you choose to supply all required operands at one time, the file name and the file attribute in that order should be immediately following the "write" command. If a file attribute is after the "write", the file attribute will be taken as the name of the output file, and a file attribute will then be requested by EVAL. In such case, you should type a "c" or "cancel" to abort the "write" command.

Note: special option for the "write" command is also available. This option allows only part of the questionnaire be written. Like the "print" command, this special option can be invoked by typing a "*" in the command line. For example:

```
Enter a request.
--> w filename new 000^00 to 999999 *

Enter a request.
--> w *
```

Files created by "write" commands can be printed on your terminal by using the EVAL "print" command. For example, if "tom_09" is the name of a file created by a "write" command, you can get the output on your terminal by typing:

```
Enter a request.
--> print tom_09
```

Files can also be printed by the high speed line-printer. See the "dprint" command for detail.

If you want to delete a file, the EVAL "delete" command should be used:

```
Enter a request.
--> delete tom_09
```

If you want to know how many files were created by the "write" command, you should use the Multics list command as follows:

```
Enter a request.
--> EXEC ls *.output

Segments = 1, Lengths = 0.

r w     0  tom_09.output
```

Dprint (dp) command

The function of the "dprint" command is essentially the same as the "write" and "print" command, except that the output generated by this command is printed by a high speed line-printer at the MIT IPC in stead of your terminal. Usually, the printing speed of your terminal is very slow, about 30 characters per second. If you want to have a fairly large number of reports, say 10 reports, to be printed on your terminal, it may takes hours to finish the printing. By using the "dprint" command, only a few minutes are needed. Thus, the saving of time is particularly obvious if you want to print a large number of reports. For example, if you want

to have a listing of the content of all reports in EVAL, you type:

```
Enter a request.
--> dprint 000000 to 999999
```

Or, if you want to print a file created by the "write" command, you type:

```
Enter a request.
--> dprint tom_09
```

where, of course, "tom_09" is the name of the file created by the "write" command.

If EVAL successfully locates the files or reports you specified with the "dprint" command, EVAL will ask you how many copies you want to have.

```
Enter a request.
--> dprint tom_09
Dprint: How many copies do you want? --> 5
1 request signalled, 22 already in printer queue 3
```

In the above example, five copies will be printed.

You can abort the "dprint" command by typing a "c" or "cancel" if you desire.

Each issuance of the "dprint" command will create a new printout, separated from the printouts generated by other "dprint" command. You should try to issue one "dprint" command to print all reports that are of interests to you. Using more than one "dprint" command to print reports will separated the printouts in different "chunks". Alternatively,

you can use the "write" command to collect all relevent reports in a file, and use the "dprint" command to get the printout.

For example, if you want to have the printout of the following reports (03-13-99, 10-00-00 to 20-00-00, 40-00-00 to 50-00-00, and the file named "tom_09"), you type:

```
Enter a request.
--> dprint
DPRINT: Enter the 6-digit report ID. -->

031299,100000 to 200000,400000 to 500000,tom_09
```

Alternatively, you can also use the "write" command to store all the reports in a file (named "tom_10" in the following example), and then use the "dprint" command to print the file.

```
Enter a request.
--> write
WRITE: Enter the name of the output file. --> tom_10
WRITE: Enter the attribute of the output file. --> new
WRITE: Enter the 6-digit report ID. -->

031399,100000 to 200000,400000 to 500000,tom_09

WRITE: tom_10.output created at 11/27/78  0100.1 est Mon
SYSTEM: Write command processed.

Enter a request.
--> dprint tom_10
```

The difference in the above two examples is that the "write" command will create a new file name "tom_10", whereas the "dprint" command will not.

All evaluation reports in EVAL are numerically coded for easy sorting and searching purposes. Eight codes are used by EVAL:

CODE	REPRESENTATION	MIN VALUE	MAX VALUE
subj	subject of the evaluation report	00	99
ent_no	entry number in a particular subject	00	99
agency	agency or organization that publishes the evaluation report	00	99
nep	national evaluation program	0	3
exemp	exemplary project	0	2
focus	focus of evaluation	0	10
data	data sources	0	7
meth	methodology	0	9

By specifying a combination of these codes, EVAL is able to locate reports that satisfy the searching criteria.

For example, if you want to search reports that are "funded by the Law Enforcement Assistance Adminstration about partrol strategies", you first have to look for the agency code for LEAA, which is 52. Subject codes for police patrol strategies are 50, 51, 52, 53, 54, 55. Then, you should issue the search command by typing a "s" or "search".

```
Enter a request.
-->  search
SUBJ 2 digits
Enter a number.
-->  50 to 55
ENT NO 2 digits
Enter a number.
-->
AGENCY 2 digits
Enter a number.
-->  52
```

```
NEP 1 digit
Enter a number.
-->
EXEMP 1 digit
Enter a number.
-->
FOCUS 1 digit
Enter a number.
-->
DELTA 1 digit
Enter a number.
-->
METH 1 digit
Enter a number.
-->
Search: 3 are found.
```

Report ID	SUBJ	ENT NO	AGENCY	NEP	EXEMP	FOCUS	DATA	METH1
52-02-52	52	02	52			0	5	0
55-05-52	55	05	52	0	3	6	6	0
55-10-52	55	10	52				6	0

```
SYSTEM: Search request processed.
```

Note: Typing only a carriage [RETURN] has the same effect as providing no searching criterion for a particular code; all reports are assumed to satisfy the criterion. Consequently, typing only a carriage [RETURN] on all questions asked by the "search" command has the same effect as listing all reports in EVAL.

The questions asked by the "search" command are in the order as depicted in the above example. Four sub-commands under the "search" command are provided to alter the sequence of these questions asked. This allows you to go back to re-answer previous questions.

Search Sub-command	Function
cancel (c)	aborts the current "search" command and returns to system command level where EVAL waits for your next request
skip (s)	skips to the next number of question you specified. For example: skip 2 instructs EVAL to skip the current and the next two questions
jump (j)	jumps to the question number you specified. A question number must be provided. Example: jump 1 instructs EVAL to go back and starts asking the first question again.
stop (stop)	stop asking for searching criteria and starts searching immediately

The following example illustrates the use of these sub-commands to set the searching criteria for the "search" command:

```
Enter a request.
--> search
SUBJ 2 digits
Enter a number.
--> 50 to 55
ENT NO 2 digits
Enter a number.
--> skip
AGENCY 2 digits
Enter a number.
--> 52
NEP 1 digit
Enter a number.
--> stop
```

The output from the "search" command is a list of reports. The "print" command can then be used to further study any interested reports.

Stat command

The "stat" command provides a frequency count for the answers of each question in the questionnaires. For example, if you want to know the frequency counts for question number 17, you type:

```
        Questionnaire Analysis          12/23/78  0428.8 est Sat

Total no. of Reports in the System is: 200
Total Number of questionnaires is: 199


Question number 17: 195 answered.
Focus of Evaluation:              number
Narrative Case Study                40
Input Evaluation or Audit           15
Process Eval with measures          14
Process Eval w/o measures            8
Outcome Eval                        29
Outcome Eval: experimental          17
Outcome Eval: quasi-experimental    42
Outcome Eval: statistical            3
Outcome Eval: formal                 1
Comprehensive Eval                  25
Not applicable                       1
suitability:
max:   7   min:   1   average: 4.3
```

You can specify as many question numbers as you want, however, the question numbers must be in betweem 8 and 31. For example, if you want to analyze question number 14, 15, 16, 26, 27, 28, and 31, you type:

```
Enter a request.
--> stat 14 to 16, 26 to 28, 31
```

If you do not provide a question number in the stat command, a complete analysis of the answers of all questions in the questionnaires will be performed.

TABLE 1: Subject Code

Subject Code	Representation
00	General Reference
01	Evaluation Manuals: General
02	Evaluation Manuals: Specific
03	Methodology: Qualitative
04	Methodology: Experimental Design
05	Methodology: Time Series
06	Methodology: Statistics
07	Methodology: Models
08	Methodology: Other
10	Technical Assistance Programs
11	In-house R&D or Planning Units
12	Training Units
13	Other Specialized Administrative Units
20	Corrections: Incarceration
21	Corrections: Probation and Parole
22	Corrections: Juvenile Diversion
23	Corrections: Program for Drug Abusers
24	Corrections: Other Alternatives to Incarceration
30	Police Community Relations: General
31	Police Community Relations: Street Safety / Crime Reduction
32	Police/School Relations Programs
33	Police/Community Training
40	Pre-Trial Release
41	Jury Management Selection
42	Court Scheduling
50	Patrol Strategies: Patrol Intensity

Subject Code	Representation
51	Patrol Strategies: One/Two officer
52	Patrol Strategies: Dispatching
53	Patrol Strategies: Sector Design
54	Patrol Strategies: Response Time
55	Patrol Strategies: Other
60	Team Policing: Community Relations
61	Team Policing: Decentralized Management
70	AVM Systems
71	CAD (Computer Aided Dispatch)
80	Information System: Statistical
81	Information System: Geographical
90	Resource Allocation: Cost
91	Resource Allocation: Productivity
99	Miscellaneous

TABLE 2: Agency Code

Agency Code	Representation
01	New Jersey SPA
02	Minnesota SPA
03	California SPA
04	Connecticut SPA
05	Pennsylvania SPA
06	Michigan SPA
07	Hawaii SPA
08	Oregon SPA
09	Virginia SPA
10	North Carolina SPA
11	Georgia SPA
12	New York SPA
13	Missouri SPA
20	Washington Criminal Justice Education and Training Center
50	Urban Institute
51	ABT
52	Law Enforcement Assistance Administration
53	Nation Council on Crime and Delinquency
54	The Rand Corporation
55	National Science Foundation
56	System Development Corporation
57	Los Angeles Police Department
58	Kansas City Police Department
59	Seattle Police Department
60	New York City Rand
61	MITRE
62	American Bar Association
69	Public Systems Evaluation
70	Police Foundation
99	Miscellaneous

TABLE 3: Nation Evaluation Program (nep) Code

NEP	Representation
0	Not Applicable
1	National Evaluation Program
2	State Planning Agency
3	High Impact Anti-Crime Program

TABLE 4: Exemplary Projects (exemp) Code

EXEMP	Representation
0	Not Applicable
1	Exemplary Project
2	Exemplary Validation Program

TABLE 5: Focus of Evaluation (focus) Code

FOCUS	Representation
0	Narrative Case Study
1	Input Evaluation or Audit
2	Process Evaluation with Performance measures
3	Process Evaluation w/o Performance Measures
4	Outcome Evaluation
5	Outcome Evaluation: experimental design
6	Outcome Evaluation: quasi-experimental design
7	Outcome Evaluation: statistical models
8	Outcome Evaluation: formal models
9	Comprehensive Evaluation
10	Not applicable

TABLE 6: Data Sources (data) Code

DATA	Representation
0	Informal Material
1	Administrative Records already available
2	Administrative Records gathered esp. for the eval.
3	Observational Data
4	Questionnaire Data
5	Interview Data
6	Written Documents
7	Not applicable

TABLE 7: Methodology (meth) Code

METH	Representation
0	Qualitative Analysis
1	Participant Observation
2	Content Analysis
3	Descriptive Statistics
4	Statistical Inference
5	Regression and ANOVA
6	Time Series Analysis
7	Factor Analysis
8	Formal Models
9	Other or Not applicable

TABLE 8: LIST OF ALL EVAL COMMANDS

Command Name	Short Form	Function
add	a	add a new questionnaire
cancel	c	terminate the current request immediately without any side-effects
cancel	cd	cancel a previously submitted delete request
delete	d	delete a questionnaire
dprint	dp	print questionnaire(s) via the high speed printer at IPC
eval	eval	fill out a questionnaire
EXEC	EXEC	execute a Multics System command
help	h	provide information concerning the use of EVAL commands
list	l	list all questionnaires stored in EVAL
logout	logout	logout from Multics System
memo	memo	leave messages to subsequent EVAL users
message	m	print previous EVAL System messages
modify	md	modify the answers of a questionnaire

Command Name	Short Form	Function
print	p	print questionnaire(s) on the user's terminal
quit	q	exit from EVAL System
search	s	perform a search on questionnaires stored in EVAL
stat	stat	perform an analysis on questionnaires stored in EVAL
write	w	print questionnaire(s) like "print" command except the output is stored in a file (Multics segment)

APPENDIX A

An Empirical Study of Methods Used In Criminal Justice Evaluations
Final Phase II Checklist
June 12, 1978

1. READER & DATE: _____

2. TITLE: _____

_____

_____

_____

3. SUBJECT & ID#: _____

_____

4. AUTHOR & ORGANIZATION: _____

_____

_____

5. PUBLICATION DATE: _____

6. FUNDING ORGANIZATION, STATE PLANNING AGENCY, OR SPONSOR: _____

_____

_____

7. NCJRS # OR SALES AGENCY: _____

8. CHECK ONE (if applicable):

____ Exemplary Project

____ Exemplary Validation Report

____ National Evaluation Program (NEP)

____ State Planning Agency

____ High Impact Anti-Crime Program

9. PERCENT (%) OF BUDGET ALLOCATED TO EVALUATION: _____

10. TOTAL FUNDING OF EVALUATION: _____

11. TIME ALLOCATED TO EVALUATION: _____

12. TIMING OF EVALUATION (e.g., before, during or after program implementation):
(a)

(b) PLANNING OF EVALUATION (before, during, or after program implementation):

13. NUMBER OF EVALUATION PERSONNEL AND BACKGROUNDS:
Same as program personnel? What relationship with program?

14. DID THE EVALUATORS CONSIDER WHETHER PROGRAM GOALS WERE CLEARLY SPECIFIED?
(a)

(b) DO YOU FEEL THAT THEY WERE CLEARLY SPECIFIED?

15. DID THE EVALUATORS CONSIDER WHETHER THE PROGRAM WAS DIRECTED AT THE APPROPRIATE
(a) TARGET POPULATION?

(b) DO YOU FEEL THAT IT WAS DIRECTED AT THE APPROPRIATE POPULATION?

16. DID THE EVALUATORS CONSIDER WHETHER THE PROGRAM WAS IMPLEMENTED AS DESIGNED?
(a)

(b) DO YOU FEEL THAT IT WAS IMPLEMENTED AS DESIGNED?

17. FOCUS OF EVALUATION:

____Narrative Case Study

____Input Evaluation or Audit

____Process Evaluation (i.e., program monitoring)

___w/ performance measures

___w/o performance measures

____Outcome Evaluation

___experimental design

___quasi-experimental design

___statistical models

___formal models

____Comprehensive Evaluation

SUITABILITY OF EVALUATION FOCUS: 1 2 3 4 5 6 7
least most

COMMENTS: _____

_____

_____

_____

18. WERE THE MEASURES ADEQUATE?: _____

_____

_____

_____

19. Evaluability--CAN OUTCOMES BE ATTRIBUTED DIRECTLY TO PROGRAM ACTIVITIES?
(a)

_____

_____

_____

_____

(b) Evaluability--IS THERE A THEORY LINKING PROGRAM ACTIVITIES TO THE PERFORMANCE MEASURES CHOSEN?

_____

_____

_____

20. ARE PROGRAM ACTIVITIES CLEARLY DESCRIBED IN THE EVALUATION? _____

21. Describe feedback between program staff and evaluation staff. If policy changes or unexpected results cause a need for changes in the evaluation design, was the design flexible enough to account for this?

22. Was the research designed to yield information that would be useful in a broader context than just evaluating this particular program?

23. DATA SOURCES:

____Informal Material

____Administrative Records

___already available

___gathered esp. for the eval.

____Observational Data

____Questionnaire Data

____Interview Data

____Written Documents

SUITABILITY OF DATA SOURCES: 1 2 3 4 5 6 7
least most

COMMENTS: _____

_____

_____

_____

_____

24. METHODOLOGY:

____Qualitative Analysis

____Participant Observation

____Content Analysis (or other analysis of written materials)

____Descriptive Statistics

____Statistical Inference

____Regression and ANOVA

____Time Series Analysis

____Factor Analysis

____Formal Models

____Other (specify) _____

_____

SUITABILITY OF METHODOLOGY: 1 2 3 4 5 6 7
least most

COMMENTS: _____

_____

_____

_____

_____

25. IS THE DATA PRESENTATION ADEQUATE? _____

26. ARE THE METHODS OF ANALYSIS CLEARLY DOCUMENTED? _____

27. ARE THE CONCLUSIONS SUPPORTED BY THE DATA ANALYSIS? _____

28. IS THERE SOME DISCUSSION OF PROGRAM IMPLEMENTATION AND POLICY IMPLICATIONS?

29. IS THERE AN INDICATION THAT THE EVALUATION FINDINGS INCLUENCED
(a) ACTUAL DECISION-MAKING ?

(b) COULD THIS TYPE OF EVALUATION BE ADAPTED FOR USE IN PERIODIC REVIEW? _____

30. WOULD THIS REPORT BE ACCESSIBLE TO THE AUDIENCES WHO WOULD FIND IT USEFUL?

31. IS THERE A DISCUSSION OF PROBLEMS MET IN IMPLEMENTING THE EVALUATION PLAN?

FINAL COMMENTS:

An example of a storage record in EVAL

Report ID : 03-12-99 11/16/78

0315.5 est Thu

Reader & Date: Cheryl, June 21
NCJRS Number:
Report Title: Evaluation of the Massachusetts Police
Author & Organization: Arthur D. Little Institute
Publication Date:
Funding Organization: Massachusetts Committee
Abstract: on Criminal Justice

End of Report.
SUBJ 3
ENT NO 12
AGENCY 99
NEP 0
EXEMP 0
FOCUS 9
DATA 3
METH1 0
METH2
METH3
An Empirical Study of Methods used in Criminal Justice Evaluations.
8.
9. not answered.
10. not answered.
11. not answered.
12(a). during
12(b). during
13.

14(a). no
COMMENT:
Not explicitly, though certainly they spelled them out in great detail.

14(b). yes

15(a). yes
COMMENT:
Evaluators questioned whethered the program should serve smaller police departments primarily and whether they in fact did so.

15(b). yes

16(a). yes
COMMENT:
They considered in their discussion of program implementation, in specific cases they reviewed. Evaluators did not directly address this issue.

16(b). yes
COMMENT:
It seems to be. There is not enough discussion of overall trends in the program to be able to tell easily.

17. Comprehensive Evaluation
SUITABILITY OF EVALUATION FOCUS: 6
COMMENT:
Evaluators had both a process evaluation and an outcome evaluation in the form of a quasi-experimental design. There was an interesting use of a quasi-experimental design to do a qualitative, process-oriented study of a large program containing many projects. They used a randomized, stratified sampling for the experimental group. It was a quasi-experimental design because the control and comparison groups were chosen form a different population. They could not do a strict experimental design because the evaluation was done after the inception of the program. However, the groups were very carefully chosen and randomization was employed whenever possible. They chose as the population for their control group those police departments who had requested assistance from MPI but had not yet recieved it. While they had per- formance measures, these were specific to particular parts of the overall program-- certain tangible criteria the evaluators felt to be measures of the program's overall success.

18. yes
COMMENT:
On the whole quite good. Evaluators were careful to consider that satisfaction of clients only a partial measure of the program's success and that impact in behavior, concrete outcomes, were the most important measures.

19(a). yes
COMMENT:
Evaluators were careful to look at what activities resulted in what outcomes.

19(b). yes

20. yes
COMMENT:
Not simply a general overview of a typical program activity but actual historical accounting of how activities unfolded in different projects.

21(a). yes
COMMENT:
Yes in sense that program staff objected to or questioned certain feedback which the staff then elaborated as a result. This implies, if not continuous feedback, some interval feedback before the final report.

21(b). yes
COMMENT:
Design flexible because interview questions, the major data source, were flexible and designed to elicit program-specific responses. Also apparant in the ingenuity with which evaluators constructed experimental and control groups.

22. no
COMMENT:
Not really testing a hypothesis. However, the program they are evaluating is a very large one which has many smaller pro- jects under it.

23. Observational Data
SUITABILITY OF DATA SOURCES: 6
COMMENT:
Rather informal telephone interviews but structed in that there is a definite set of questions as a base. The basic questions, give
in the appendix, seem quite thoughtful-- investigative reporting style which is important to unearth the police cheif's perceptions of what really happened. While there is no direct observation, the interviews are not simply standardized surveys but are designed to get a rich, situation-specific response. While main data source was interview data, evaluators used administrative records for a determination of the organization's cost-effectiveness.

24. Qualitative Analysis
SUITABILITY OF METHODOLOGY: 6
COMMENT:
Notes about this in final comments.

25. yes
COMMENT:
They give examples of responses as well as evaluator's interpretation and aggregation.

26. no
COMMENT:
Telephone interviews are stated as the only form of data gathering but probably information was gathered from MFI files and perhaps some observation of on-going programs as well. (This should got under question 25.)

27. yes

28. yes
COMMENT:
They particularly listed those which potential clients said they felt would be useful.

29(a). no

29(b). yes
COMMENT:
Rather efficient because use of telephone interviewing and process oriented rather than oriented solely to measuring impact on long-term goals.

30. yes
COMMENT:
Executive summary. First sections of report confusing but overall fairly readable and results informative.

31. no

FINAL COMMENT:
This is one of the most interesting evaluations I have seen. It combines features of a process evaluation -- while done on aspects of the program completed before the evaluation took place -- and features of an experimental design which allows you to look carefully at a small sample in a systematic way and feel relatively confident your findings can be generalized to the larger population you are actually interested in. The evaluators were faced with looking at a multi- faceted program which had been in operation long before they arrived on the scene. They could not examine, with any depth, all of the things the program had done yet they wanted to evaluate the program overall. Their solution was quite creative. They carefully shoxe a stratified random sample of police departments who had made use of the MPI. These were matched, randomizing where possible, with a control group of clients awaiting services from MPI and a comparison group of police departments who had never made requests. (Why they chose the former as a control group is unclear and a bit problematic to me.) They then did structured telephone interviewing of subjects in various groups. Where "treatment" had been given, they probed not only for the attitudes of subjects but for documentation as to what had actually changed in their depart- ments as a result of the treatment. While this "investigative reporting" method of data collection does not substitute for direct observation, the interviewing was situation specific enough (as revealed by reported subject responses) to go beyond the initial subjective responses of the clients. One problem whih casts some doubt on the evaluators interpretations of data is that they did sound a bit too anxious to praise the projet staff where they could.

End of Questionnaire.